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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,412

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David Taylor

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EXAMINER

JACKSON, MONIQUE R

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,412	Applicant(s) TAYLOR, DAVID	
	Examiner Monique R. Jackson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-22 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/7/07</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: a) proper section headings should be inserted, particularly "Brief Description of the Several Views of the Drawing(s)"; b) "chilli" is misspelled and should probably be "chili".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 and 15-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "non-brittle" in claims 1, 15, 16 is a relative term which renders the claim indefinite. The term "non-brittle" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Hence, it is not what the Applicant considers brittle vs. non-brittle in order to interpret the metes and bounds of the claim so as to understand how to avoid infringement. It is also noted that in Claim 2, the term "said", "the" or similar term should be inserted before "leach-preventative" on line 1.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 8, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 94/19505 (WO'505.) WO'505 teaches a coated article comprising a lead substrate and a film adhered to the substrate; wherein the film includes a polymer of at least one polymerizable vinyl monomer or a prepolymer thereof; optionally at least one polymerizable epoxy monomer or a prepolymer thereof; optionally at least one polymerizable surfactant monomer; and optionally at least one binder resin (Abstract.) WO'505 teaches that the coated lead substrate is formed by coating the lead substrate with a film forming composition and then cured, wherein the film forming composition comprises a mixture of at least one polymerizable vinyl monomer or a prepolymer thereof, preferably acrylic monomers; at least one graft initiator; a solvent; optionally at least one polymerizable epoxy monomer or a prepolymer thereof; optionally at least one polymerizable surfactant monomer; optionally at least one binder monomer or a prepolymer or resin thereof, preferably acrylic resin, epoxy resin, urethane resin or combinations thereof; optionally at least one surfactant which may be the same as or different than the polymerizable surfactant monomer; optionally at least one catalyst such as a peroxide catalyst; and optionally at least one cross-linking agent (Pages 5-6; Claims.) WO'505 teaches that the article is preferably in the form of a sheet or tile which may be used as a roofing material; and the coating has a thickness of about 0.1 to about 260 microns (Page 4, lines 28-31; Page 7, lines 1-4.) The coating can be applied by known methods including dipping, spraying, roller coating, and brushing, and can be cured at ambient conditions or elevated temperatures (Page 10, lines 24-29.) WO'505 teaches that the composition can comprise other additives including flame retardants, abrasion improving agents, lubricants, water repellency enhancing agents, and biocides, (Page 6, lines 26-

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33.) Though WO'505 does not specifically teach curing by ultraviolet radiation, the Examiner takes the position that the final cured end product taught by WO'505 would be the same as the final cured end product of the instant claims and hence reads upon the product claims as recited.

6. Claims 1-5, 8-9, 15-18, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu (USPN 4,070,398.) Lu teaches a heat-sealable laminate useful as packaging materials comprising a layer of metal foil, preferably lead or aluminum; an outer heat-sealable layer of a radiation-cured and heat-fused polymeric composition, and a radiation-cured chemically-resistant polymeric interlayer between the foil and the outer layer (Abstract; Col. 3, lines 3-10.) Lu teaches that the laminates are manufactured by coating the metal foil with a radiation-curable composition that is capable of forming a chemically-resistant solid plastic layer upon radiation curing, such as epoxy acrylates, acrylic resins, and preferably acrylated epoxy resins; and irradiating the coating to cure it, overcoating with a radiation-curable composition such as a vinyl plastisol modified with acrylic monomers that is capable of forming a heat-sealable layer upon radiation curing, irradiating the overcoat to cure it, and heating the laminate to fuse the overcoat layer (Abstract; Col. 3, line 4-Col. 5, line 15; Col. 5, line 32-Col. 6, line 10.) Lu teaches that the interlayer has a thickness of about 0.2 to about 2 mils (Col. 5, lines 26-30) and the thickness of the outer layer is typically in the range of about 0.1 to about 5 mils (Col. 6, lines 11-16.) The coatings can be applied by any conventional manner, including dip coating, knife coating, roll coating, gravure coating, extrusion coating, bead coating, curtain coating, and rod coating (Col. 6, lines 52-64.) Lu teaches that the coatings can be cured by ultraviolet radiation and that when either composition is cured by UV, a photoinitiator is preferably included in the composition (Col. 7, lines 1-35.) Lu teaches a specific example comprising a 1

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mil thick radiation-curable composition coated onto a lead foil and then irradiated with UV light to cure the coating composition; wherein the composition comprises an acrylated epoxy resin, acrylate monomers and photoinitiators (Example 1.) With respect to Claim 22, the Examiner notes that the limitation "a construction", taken in its broadest sense, reads upon any structure, including a package.

7. Claims 1, 5-8, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by GB2141360A (GB'360.) GB'360 teaches coated lead articles comprising a coherent, non-toxic, soft wear-resistant coating, having a thickness of from a few microns up to 0.02mm; wherein the coating comprises a solid lubricant such as polytetrafluoroethylene or molybdenum disulphide, and can be applied by any conventional manner, for example, dip coating or barrel spray process with the aid of an adhesive resin (Entire document.) GB'360 teaches that if desired, more than one coating layer may be applied and a heat-curing stage may be employed to improve wear resistance of the coating (Page 1, lines 99-102.) GB'360 specifically teaches lead shots and lead weights but also teaches that the term "lead article(s)" embraces any article(s) made entirely or partly of lead or lead alloy, and not just lead shots and lead weights (*wherein a sheet or flat material is clearly envisaged*; Page 1, lines 6-12.) Though GB'360 does not specifically teach curing by ultraviolet radiation, the Examiner takes the position that the final cured end product taught by GB'360 would be the same as the final cured end product of the instant claims and hence reads upon the product claims as recited.

8. Claims 1-5, 8, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 367318 A (EP'318.) EP'318 teaches a rolled lead sheet and strip having a corrosion-proof coating consisting of a layer of adhesive, highly elastic, weather-resistant lacquer (II) produced

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by applying an aqueous dispersion coating based on acrylic copolymer, epoxy resin, alkyd resin, PV-alcohol or PVC, or a solvent-based epoxy, alkyd or acrylic resin paint; to the bright-rolled sheet lead by rolling, dipping or spraying, and drying at 150-210C, to form a layer 10-30 microns thick (Abstract.) EP'318 teaches that the coated lead sheet is useful in the building industry, e.g., for roofing, sealing, insulation, etc., and in the chemical industry, e.g., for tank lining, and gives more effective and longer-lasting protection from corrosion than prior-art coatings and adapts well to any surface contour, and its visual appearance can be adapted to building requirements (Entire document.) Though EP'318 does not specifically teach curing by ultraviolet radiation, the Examiner takes the position that the final cured end product taught by EP'318 would be the same as the final cured end product of the instant claims and hence reads upon the product claims as recited.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6-7, 9-12 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'505 in view of Taylor (USPN 6,173,652) and in further view of Yarkony et al (USPN 5,061,478.) The teachings of WO'505 are discussed above. Though WO'505 teaches that various additives can be further incorporated into the composition, including lubricants, biocides WO'505 does not specifically teach PTFE or MoS₂ as the additives or lubricants, however, PTFE and MoS₂ are known, conventional species of lubricants utilized in the art and would have been

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obvious to one having ordinary skill in the art at the time of the invention. With respect to Claims 10-12, though WO'505 teaches that the coated lead sheet can be utilized in outdoor environments, particularly for roofing materials, and can include various additives, WO'505 fails to teach the incorporation of a habareno pepper extract. However, pepper extracts such as habareno pepper extract, is a known pest-repellent that may be incorporated into a polymer coating composition and applied to a lead substrate as taught by Taylor, wherein Yarkony et al teach that roofs or roofing beams or other outdoor elements are beneficially coated with a pest-repellant polymer coating to repel pests. Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a habareno pepper extract as a pest repellent into the coating composition taught by WO'505. Lastly, with respect to the curing method and incorporation of a photoinitiator, WO'505 only discloses that the coating can be cured at ambient or elevated temperatures and does not specifically disclose curing with UV radiation. However, UV curing would have been obvious to one having ordinary skill in the art at the time of the invention given that UV curing is a known, alternative, equivalent curing process to heat curing, particularly when acrylic monomers and oligomers are present in the coating, wherein photoinitiators are obvious curing initiators when curing by UV radiation.

11. Claims 2-4, 9-12 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB'360 in view of Taylor. The teachings of GB'360 are discussed above. GB'360 fails to teach that the coating further comprises an abhorrent material as instantly claimed, however, Taylor teaches that a lead-cored article or shot which is coated can further include in the coating an abhorrent material, particularly chili or chili pepper, to act as a repellent for preventing or deterring birds from ingesting or swallowing the shot. Hence, one having ordinary skill in the art

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would have been motivated to incorporate a chili pepper extract as taught by Taylor in the invention taught by GB'360, wherein habareno pepper is an obvious species of chili pepper. Further, though GB'360 teaches that the coating may include adhesive resins and can include a heat curing step to further improve the wear resistance, GB'360 does not specifically teach that the adhesive is an acrylate and/or epoxy adhesive resin or that the coating further includes photoinitiators to allow the coating to be cured by light or UV radiation. However, acrylate and epoxy resins are obvious curable adhesive resins in the art and UV curing would have been obvious to one having ordinary skill in the art at the time of the invention given that UV curing is a known, alternative, equivalent curing process to heat curing, particularly for acrylate resins, wherein photoinitiators are obvious curing initiators to be included when curing by UV radiation.

12. Claims 1-12 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (USPN 6,173,652.) Taylor teaches a shot having a lead or lead alloy core sealed from the outside by at least one non-toxic layer which protects the environment from lead waste toxicity and which includes an abhorrent material, particularly chili or chili pepper, to act as a repellant for preventing or deterring birds from ingesting or swallowing the shot (Abstract.) Taylor teaches that the lead core is completely surrounded or encapsulated by a barrier layer comprising a mixture of the abhorrent material and another coating material, wherein the coating may be applied by any suitable known coating technique, such as by spraying, tumbling, immersion including dip-drain and dip-spin, curtain coating, electrophoresis, autophoresis, roller coating and printing; and may be air dried, oven cured, electron beam cured, IV cured, UV cured or cured in any other suitable manner; with typical coatings applied to a thickness of 0.01 to 0.02 mm (Entire document, particularly Col. 2, lines 15-60). Taylor further teaches that known

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coating techniques generally involve coating lead or lead alloy shot with at least one layer of wear-resistant non-toxic coating material acting as a shield or barrier to the toxic lead or lead alloy core, wherein known coating materials suitably comprises a solid film lubricant, e.g. polytetrafluoroethylene or molybdenum disulphide; and that to assist adhesion of such coatings, adhesive resins may be employed. Taylor does not teach that coated lead is formed into any shape other than a shot, such as in the form of the claimed "sheet material", however, it is well established in the art that coated bullets or bullet jackets can be formed by first producing a sheet material of the coating or outer jacket which is then applied or laminated to the bullet core. Hence, one having ordinary skill in the art at the time of the invention would have been motivated to adapt the invention taught by Taylor into the shape of a sheet or film which would provide the same pest-repellant benefits taught by Taylor. Further, though Taylor does not specifically teach that the chili pepper extract is from a habareno pepper or that the adhesive resin material is an acrylate and/or epoxy resin, habareno peppers are an obvious species of chili pepper while acrylate and epoxy resins are obvious curable adhesive resins in the art, and the selection of these claimed materials would have been obvious to one skilled in the art at the time of the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
September 13, 2008